CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 84-27
NPDES NO. CA 0037664

REISSUING WASTE DISCHARGE REQUIREMENTS FOR:

SOUTHEAST WATER POLLUTION CONTROL PLANT
CITY AND COUNTY OF SAN FRANCISCO

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter called the Board) finds that:

1. The City and County of San Francisco, hereinafter called the discharger, submitted a report of waste discharge dated March 15, 1984 for reissuance of NPDES Permit No. CA0037664.

2. The discharger presently discharges an average dry weather flow of 71.8 million gallons per day (mgd) from its secondary treatment plant which has a dry weather design capacity of 85.4 mgd. This plant treats domestic and industrial wastewater from the Southeast and North Shore areas of San Francisco and a small part of the North San Mateo County Sanitation District. All treated wastewater up to an outfall design capacity of 70 mgd (waste 001) is discharged into San Francisco Bay, a water of the State and United States, east of Islais Creek through a submerged diffuser about 800 feet offshore at a depth of 42 feet below mean lower low water. Latitude 37 deg., 44 min., 58 sec.; Longitude 122 deg., 22 min., 22 sec.

3. During wet weather, the plant treats a combination of domestic and industrial wastewaer mixed with storm water runoff, all containing pollutants, up to a maximum of 140 mgd. All other flow collected in the service area is stored in the collection system for later treatment, or it overflows to San Francisco Bay. These combined sewer overflows are governed by a separate NPDES Permit (No. CA0038610).

4. All wastewater treated in the plant in excess of the 001 outfall capacity (waste 002) is discharged through an outfall into Islais Creek, a water of the State and United States. The discharge point is located about 50 feet offshore from the pump station which pumps wastewater to the outfall described in Finding 2, above. Initial dilution of this waste is less than 10:1.

5. The discharge is presently governed by Waste Discharge Requirements, Order Nos. 74-163, 77-60 and 79-128, which allow discharge into San Francisco Bay.

6. The Regional Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on July 21, 1982. The Basin Plan contains water quality objectives for San Francisco Bay, Islais Creek and contiguous waters.

7. The beneficial uses of San Francisco Bay, Islais Creek and contiguous water bodies are:

- Water contact recreation
- Non-contact water recreation
- Wildlife Habitat
- Preservation of Rare and Endangered Species
- Estuarine Habitat
- Fish migration and spawning
- Industrial service and process supply
- Shellfish Harvesting
- Navigation
- Commercial and Sport Fishing

8. An Operations and Maintenance Manual is maintained by the discharger for purposes of providing plant and regulatory personnel with a source of information describing all equipment, facilities, and recommended operating strategies, process control monitoring, and maintenance activities. In order to remain a useful and relevant document, this manual should be kept updated to reflect significant changes in plant facilities or activities.

9. NPDES Permit No. CA0038610, governing discharges from the wet weather diversion structures in this service area, allows combined sewer overflows only under the following conditions:

   a. All storage capacity within a storage facility is fully utilized; and

   b. Maximum installed pumping capacity or some lower rate based on limits of downstream transport or treatment capabilities is being utilized to withdraw flows from the storage facility; and,

   c. All Bayside treatment facilities are being operated at capacity or at some lower rate consistent with the maximum withdrawal and transport rates; and,

   d. Overflow occurs from a facility employing baffles or other equivalent means to reduce the discharge of floatables.

10. Because combined sewer overflows of raw sewage have a greater adverse water quality impact than secondary or primary treated wastewater, it is desirable to treat as much flow as possible at the Southeast Water Pollution Control Plant. On some occassions, more flow can be primary treated than secondary treated due to operational constraints. At such times, the excess primary treated flow would bypass the secondary treatment units. The combined flow would then be disinfected and dechlorinated prior to discharge. This combined flow may occassionally not meet standard secondary effluent requirements, but the overall water quality impact would be less due to the decrease of combined sewer overflows.

11. This Order serves as an NPDES permit, adoption of which is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code (CEQA) pursuant to Section 13389 of the California Water Code.

12. The discharger and interested agencies and persons have been notified of the Board's intent to reissue requirements for the existing discharge and have been provided with the opportunity for a public hearing and the opportunity to submit their written views and recommendations.

13. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, that the discharger in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder and the provisions of the Clean Water Act as amended and regulations and guidelines adopted thereunder shall comply with the following:

A. Discharge Prohibitions

1. Bypass or overflow of untreated or partially treated wastewater to waters of the State either at the treatment plant or from any of the collection system and pump stations tributary to the treatment plant is prohibited. During wet weather such overflows or bypasses will be allowed, consistent with the Southeast WPCP Operations and Maintenance Manual, the prohibitions and provisions of this Permit, and NPDES Permit No. CA0038610 to minimize adverse water quality impact, and as identified in Findings 9 and 10, above.

2. The average dry weather flow shall not exceed 85.4 mgd. Average shall be determined over three consecutive months each year.

3. Discharge at any point at which the wastewater does not receive an initial dilution of at least 10:1 is prohibited.

B. Effluent Limitations

1. Effluent discharged shall not exceed the following limit:

Constituents	Units	30-day Average	7-day Average	Maximum Daily	Instantaneous Maximum
a. Settleable Matter	ml/l-hr	0.1		-	0.2
b. BOD_5 or	mg/l	30	45		-
Carbonaceous BOD_5 (1)	mg/l	25	40		-
c. Total Suspended Solids	mg/l	30	45		-
d. Oil & Grease	mg/l	10		20	-
e. Total Chlorine Residual (2)	mg/l	-	-	-	0.0

(1) Effective upon its promulgation in a new secondary treatment definition by EPA.

(2)Requirement defined as below the limit of detection in standard test methods.

2. The arithmetic mean of the biochemical oxygen demand (5-day, 20°C) and suspended solids values, by weight for effluent samples collected in a period of 30 consecutive calendar days shall not exceed 15 percent of the arithmetic mean of the respective values, by weight, for influent samples collected approximately the same times during the same period (85 percent removal).

3. The pH of Waste 001 shall not exceed 9.0 nor be less than 6.0. The pH of Waste 002 shall not exceed 8.5 nor be less than 6.5.

4. The survival of test organisms acceptable to the Executive Officer in 96-hour bioassays of Waste 001 shall achieve a 90 percentile value of not less than 50% survival based on the ten most recent consecutive samples. The survival of test organisms acceptable to the Executive Officer in 96-hour bioassays of Waste 002 shall achieve a median of 90% survival for three consecutive samples and a 90 percentile value of not less than 70% survival based on the ten most recent consecutive samples.

5. Representative samples of the effluent shall not exceed the following limits:(1)

Constituent	Unit of Measurement	6 month median	Daily Maximum
Arsenic	mg/l	0.01	0.02
Cadmium	mg/l	0.02	0.03
Total Chromium	mg/l	0.005	0.01
Copper	mg/l	0.2	0.3
Lead	mg/l	0.1	0.2
Mercury	mg/l	0.001	0.002
Nickel	mg/l	0.1	0.2
Silver	mg/l	0.02	0.04
Zinc	mg/l	0.3	0.5
Cyanide	mg/l	0.1	0.2
Phenolic Compounds	mg/l	0.5	1.0
Total Identifiable Chlorinated Hydrocarbons (2)	mg/l	0.002	0.004

(1) These limits are intended to be achieved through secondary treatment, source control and application of pretreatment standards.

(2) Total Identifiable Chlorinated Hydrocarbons shall be measured by summing the individual concentrations of DDT, DDD, DDE, aldrin, BHC, chlordane, endrin, heptachlor, lindane, dieldrin, polychlorinated biphenyls, and other identifiable chlorinated hydrocarbons.

6. The moving median value for the MPN of total coliform in any five(5) consecutive effluent samples shall not exceed 240 coliform organisms per 100 milliliters when verified a repeat sample collected within 48 hours.

C. Receiving Water Limitations

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:

   a. Floating, suspended, or deposited macroscopic particulate matter or foam;

   b. Bottom deposits or aquatic growths;

   c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;

   d. Visibile, floating, suspended, or deposited oil or other products of petroleum origin;

   e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.

2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the water surface:

a.	Dissolved oxygen	5.0 mg/l minimum. Median of any three consecutive months shall not be less than 80% saturation. When natural factors cause lesser concentration(s) than those specified above, then this discharge shall not cause further reduction in the concentration of dissolved oxygen.
b.	Dissolved Sulfide	0.1 mg/l maximum
c.	pH	Variation from natural ambient pH by more than 0.5 pH units.
d.	Un-ionized ammonia	0.025 mg/l as N Annual Median 0.4 mg/l as N Maximum

3. The discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resources Control Board as required by the Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Clean Water Act, or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

D. Provisions

1. The requirements prescribed by this Order supersede the requirements prescribed by Order Nos.74-163, 77-60 and 79-128. Order Nos. 74-163, 77-60 and 79-128 are hereby rescinded.

2. Where concentration limitations in mg/l are contained in this permit, the following mass emission limitations shall also apply as follows:

   Mass Emission Limit in , kg/d = Concentration limit in mg/l x 3.79 x Actual Flow in mgd averaged over the time interval to which the limit applies.

3. The discharger shall comply with all sections of this order immediately upon adoption.

4. The discharger shall review and update his Operations and Maintenance Manual annually, or in the event of significant facility or process changes, shortly after such changes have occurred. Annual revisions, or letters stating that no changes are needed, shall be submitted to the Regional Board by April 15 of each year. A time schedule for completion of the initial revision shall be submitted by July 1, 1984. Documentation of operator input and review shall accompany each annual update.

5. The discharger shall review and update by September 1, 1984 annually its contingency plan as required by Board Resolution No. 74-10. The discharge of pollutants in violation of this Order where the discharger has failed to develop and/or implement a contingency plan will be basis for considering such discharge a willful and negligent violation of this Order pursuant to Section 13387 of the California Water Code.

6. The discharger is required to effectively implement a pretreatment program under the authority to Section 307(b) and 402(b)(8) of the Clean Water Act. As part of this responsibility, the discharger shall ensure compliance with pretreatment standards promulgated under Section 307(b) and (c) of the Clean Water Act:

   (a) Compliance by existing industrial sources with pretreatment standards shall be within 3 years of the date of promulgation of the standard unless a shorter compliance time is specified.

   (b) Compliance by new sources of industry with promulgated pretreatment standards shall be required upon commencement of discharge.

7. The discharger shall comply with the self-monitoring program as adopted by the Board and as may be amended by the Executive Officer.

8. The discharger shall comply with all items of the attached "Standard Provisions, Reporting Requirements and Definitions" dated April 1977. Item C.2 of the Standard Provisions shall read as follows: The "30-day, or 7-day, average" discharge is the total discharge by weight during 30, or 7, consecutive calendar day period, respectively, divided by the number of days in the period that the facility was discharging. Where less than daily sampling is required by this permit, the 30-day, or 7-day, average discharge shall be determined by the summation of all the measured discharges by weight divided by the number of days during the 30, or 7, consecutive calendar day period when the measurements were made. For other than 7-day or 30-day periods, complaince shall be based upon the average of all measurements made during the specified period.

9. This Order expires June 20, 1989. The discharger must file a report of waste discharge in accordance with Title 23, Chapter 3, Subchapter 9 of the California Administrative Code not later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements.

10. This Order shall serve as a National Pollutant Discharge Elimination System Permit pursuant to Section 402 of the Federal Water Pollution Control Act or amendments thereto, and shall become effective 10 days after date of its adoption provided the Regional Administrator, Environmental Protection Agency, has no objection. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

I, Roger B. James, Executive Officer do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on June 20, 1984.

ROGER B. JAMES
Executive Officer

Attachments:
Standard Provisions &
Reporting Requirements, April 1977
Self-Monitoring Program
Resolution 74-10

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM
FOR

CITY AND COUNTY OF SAN FRANCISCO

SOUTHEAST PLANT

NPDES NO. CA 0037664

ORDER NO. 84- 27

CONSISTS OF

PART A

AND

PART B dated June 20, 1984

DS-3

PART B

I. DESCRIPTION OF SAMPLING STATIONS

A. INFLUENT AND INTAKE

Station	Description
A-001	At any point in the treatment facilities headworks at which all waste tributary to the system is present and preceding any phase of treatment.

B. EFFLUENT(1)

Station	Description
E-001 & E-002	At any point in the outfalls for Wastes 001 and 002, respectively, between the points of discharge and the points at which all wastes tributary to each outfall are present. (May be the same location.)
E-001D	At any point in the disinfection facilities at which point adequate contact with the disinfectant is assured.

(1) If the discharger wants to use a substitute effluent sampling station, and demonstrates to the satisfaction of the Regional Board's Executive Officer and the EPA's Regional Administrator that a statistically sound correlation exists between data obtained for the substitute station and that for the designated station, the Executive Officer may approve use of the substitute station.

However, if such substitution involves variation from the Approved Test Procedures, the alternate test procedurs shall be requested and considered pursuant to 40 CFR 136.5.

C. COMBINED SEWER OVERFLOWS

SE Station Number	Description - Please see drawing #A
0-1	Howard overflow location
0-2	North Side Fourth Street overflow location
0-3	Seventh and Division Street overflow location
0-4	Mariposa overflow location
0-5	Selby Street overflow location

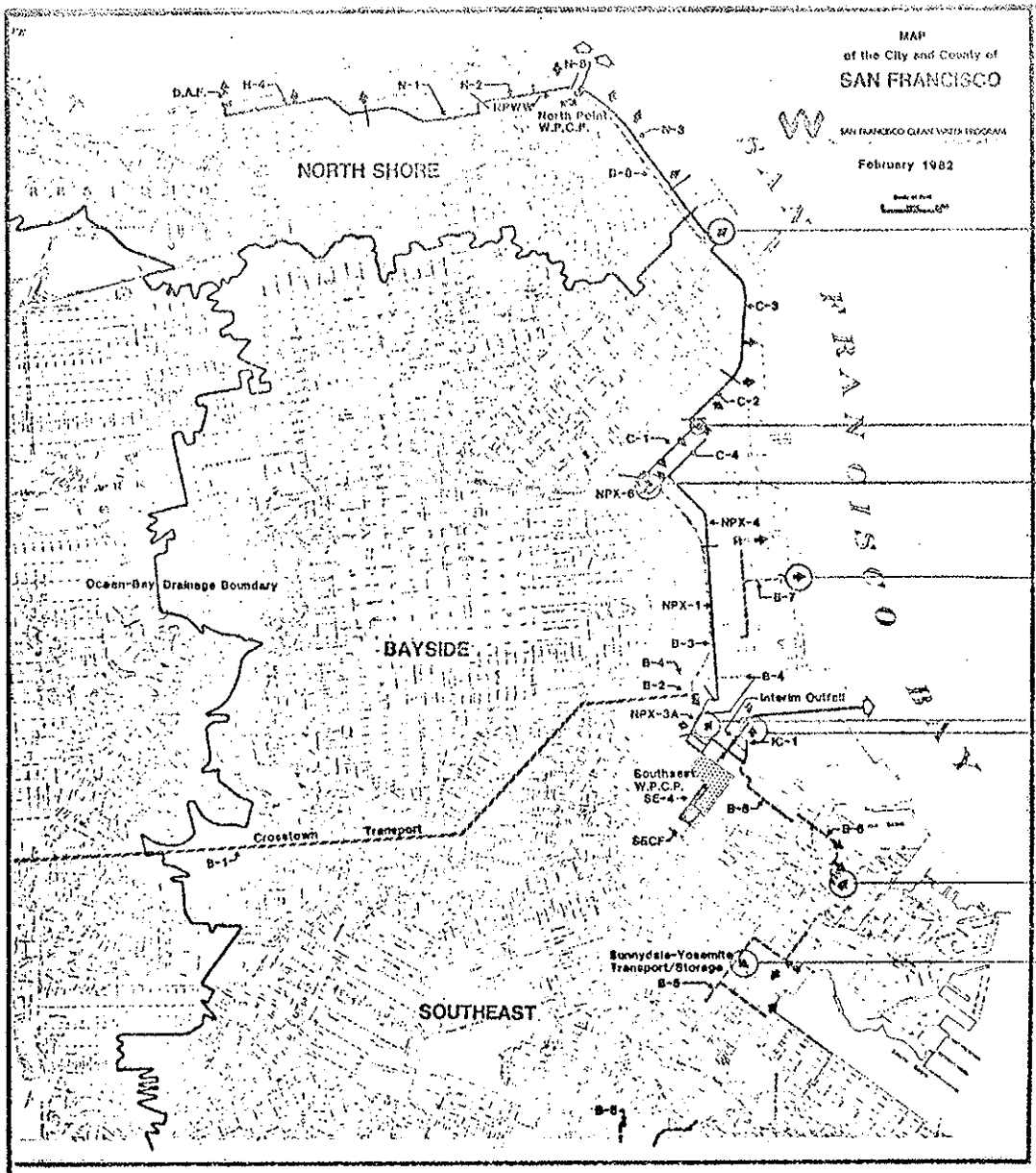
0-6	South Side Third Street overflow location
0-7	Hudson overflow location
0-8	Yosemite Avenue overflow location

D. RECEIVING WATERS AND SEDIMENTS

SE Station Number	Description - Please see drawing #B
C-1	In Islais Creek, approximately 850 feet west of station C-2
C-2	In Islais Creek, midspan of the Bascule Bridge
C-3	In Islais Creek, approximately 850 feet east of station C-2
C-4	In Islais Creek, approximately 850 feet east of station C-3
C-5	In Islais Creek, approximately 850 feet east of station C-4
B-1	Bay outfall station, please see drawing No. C
B-2	Bay outfall station, please see drawing No. C
B-3	Bay outfall station, please see drawing No. C
B-4	Bay outfall station, please see drawing No. C
B-5	Bay outfall station, please see drawing No. C
B-6	Bay outfall station, please see drawing No. C
B-7	Bay outfall station, please see drawing No. C
B-8	Bay outfall station, please see drawing No. C

E. LAND OBSERVATIONS

Station	Description
P-1 thru P-10	Located at the corners and midpoints of the perimeter surrounding the treatment facilities. Please see drawing no. D



SE Station Number	Overflow Name
O-1	Howard
O-2	Fourth St., North Side
O-3	Division St. & Seventh St.
O-4	Mariposa St.
O-5	Selby St.
O-6	Third St., South Side
O-7	Hudson St.
O-8	Yosemite Ave.

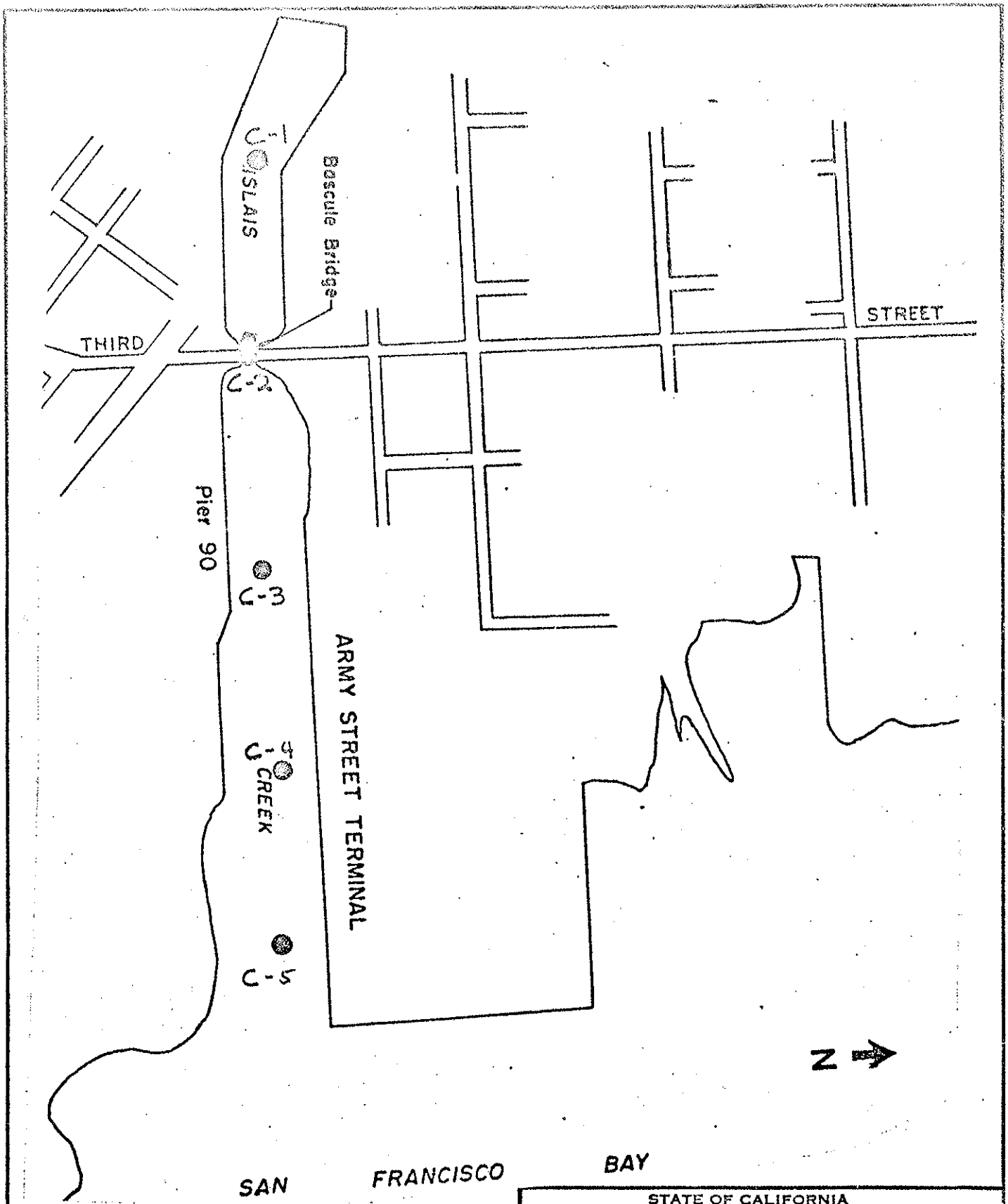
Key

- Combined Sewer Overflows
- Existing Outfall
- Existing Plant
- Separation between Projects
- Selected Overflow
- O-6 Station Number

STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

Overflows - Southeast Selected Overflows
Southeast Self-Monitoring Program

DRAWN BY: | DATE: 10-12-83 | DRWG. NO. A



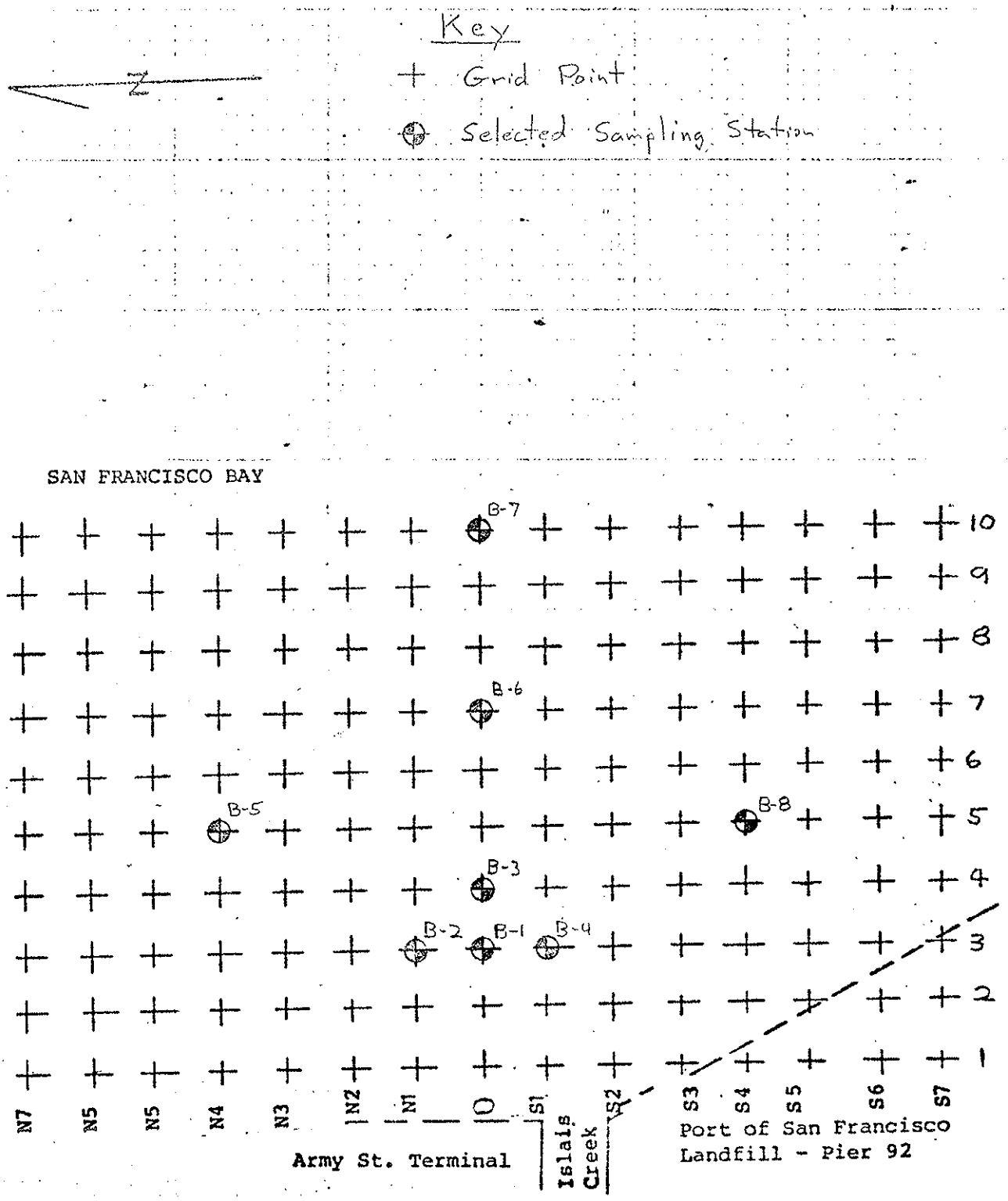
Key

● C-3 Sampling Location Station Number

STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

Islais Creek Sampling Locations

DRAWN BY: CEF	DATE: 10-12-8	DRWG. NO.

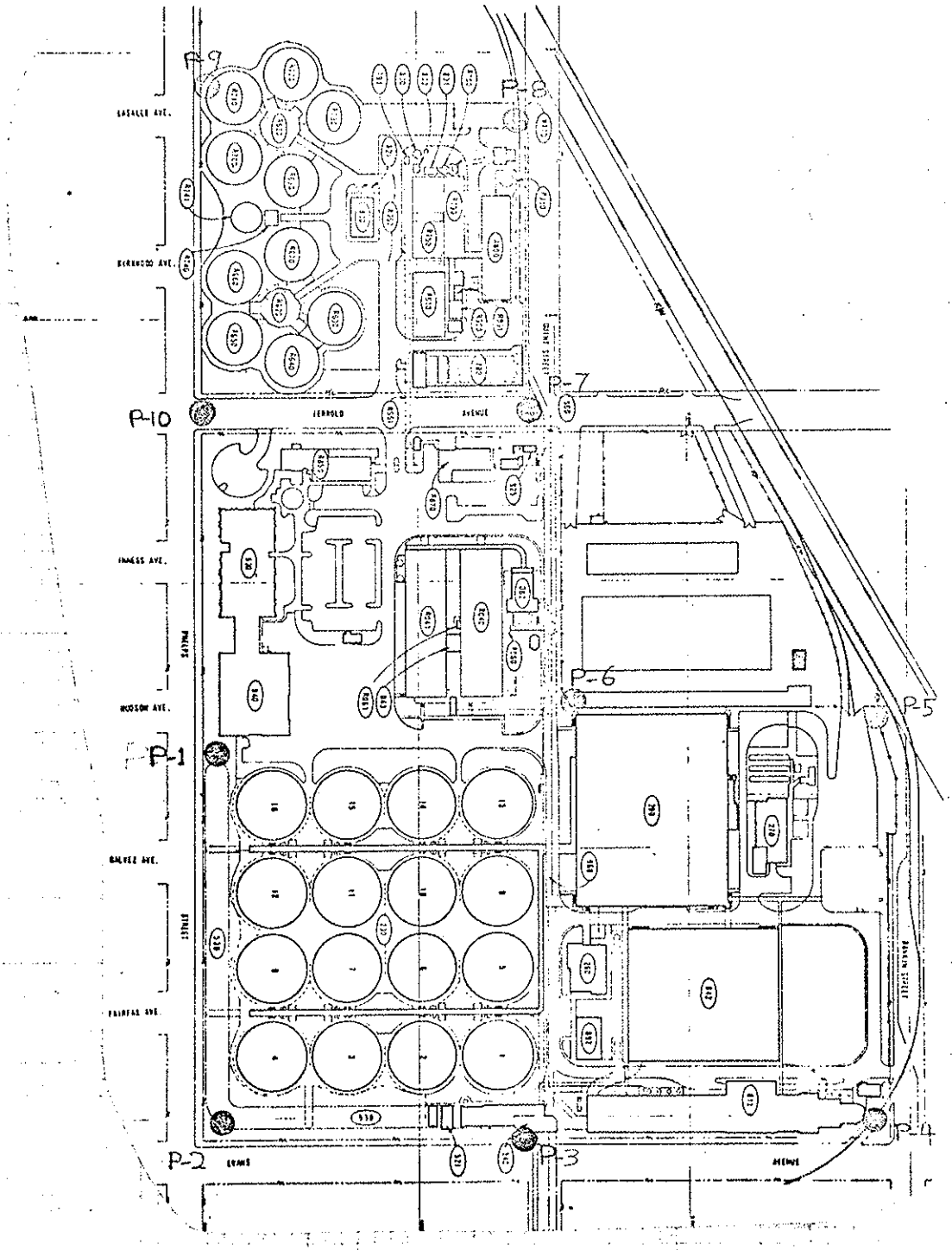


STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

San Francisco - Southeast Sampling Station Grid at Outfall

Scale 1" = 1000'

DRAWN BY: | DATE: 10-12-93 | DRWG. NO. C



Key

● P-2 – P sample station

Taken from a CH2MHill drawing

STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

Southeast Plant
CCSF
P stations
Land Observations

DRAWN BY: CER	DATE: 10-13-9	DRWG. NO. 12

II. SCHEDULE OF SAMPLING ANALYSIS, AND OBSERVATIONS

A. The schedule of sampling analysis, and observations shall be that given as Table I and the attached footnotes.

B. In addition to the requirements of Part A, Section D, the discharger is required to perform observations, sampling, and analyses according to the following schedule:

Receiving Waters

1. Benthic sampling shall be performed once during the summer season and once during the winter season of each year.

2. All C stations shall be sampled during daylight hours at peak flow, plus or minus 1½ hours. Tidal condition shall be reported.

III. REPORTING

A. Tabulation of the data to include for each constituent total number of analyses, maximum, minimum, and average values for each period. The data shall be reported(1) on either the EPA Form 3320-1, or the State Form Q-2.

B. The annual Receiving Water Data Summary (S-39)(1) and the Annual Waste Characteristic and Loading Summary (S-37)(1) shall be filed for each constituent, monthly.(2)

(1)The format of data presentation is subject to modification upon agreement between the discharger and the Executive Officer of the Regional Board.

(2)The frequency of filing Annual Summaries is subject to modification upon agreement between the discharger and the Executive Officer.

I, Roger B. James, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedures set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No.

2. Does not include the following paragraphs of Part A:

C-3, C-5:c, C-5:d, D-3:b.

3. Is effective on the date shown below.

4. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger and revisions will be ordered by the Executive Officer.

Roger B. James
Executive Officer

Effective Date_____

Attachments:
Table I

San Francisco, Southeast Plant

TABLE I
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	A-001	E-001 & 002			E-001D	C-1 thru C-5	C-2	E-1 thru E-8	All Sta	All Sta			
TYPE OF SAMPLE	C-24	G	C-24	Cont	G	G	G	G	O	O			
Flow Rate (1) (mgd)	D			(10) D						(12) E			
BOD, 5-day, 20° C, (mg/l & kg/day) (2)	D		D										
Chlorine Residual & Dosage (mg/l & kg/day)		H	or	Cont									
Settleable Matter (ml/1-hr. & cu. ft./day) (3)		4H											
Total Suspended Matter (mg/l & kg/day) (2)	D		D										
Oil & Grease (4)(8) (mg/l & kg/day)	W	W											
Coliform (Total) (5) (MPN/100 ml) per req't					(6) 5/W	(11) 2/M	(9) 3/W	(11) 2/M					
Fish Toxicity, 96-hr. TL_{50} % Survival in undiluted waste			(13) 2/M										
Ammonia Nitrogen (mg/l & kg/day)			2/M			(11) 2/M	(9) W	(11) 2/M					
Nitrate Nitrogen (mg/l & kg/day)			2/M										
Nitrite Nitrogen (mg/l & kg/day)			2/M										
Total Organic Nitrogen (mg/l & kg/day)			2/M										
Total Phosphate (mg/l & kg/day)			2/M										
Turbidity (Jackson Turbidity Units)			W			(11) 2/M		(11) 2/M					
pH (units)		D				(11) 2/M	(9) W	(11) 2/M					
Dissolved Oxygen (mg/l and % Saturation)						(11) 2/M	(9) W	(11) 2/M					
Temperature (°C)						(11) 2/M	(9) W	(11) 2/M					
Apparent Color (color units)													
Secchi Disc (inches)						(11) 2/M		(11) 2/M					
Sulfides (if DO<5.0 mg/l) Total & Dissolved (mg/l)													
Arsenic (mg/l & kg/day) (7)			M										
Cadmium (mg/l & kg/day) (7)			M										
Chromium, Total (mg/l & kg/day) (7)			M										
Copper (mg/l & kg/day) (7)			M										
Cyanide (mg/l & kg/day) (7)			M										
Silver (mg/l & kg/day (7)			M										
Lead (mg/l & kg/day) (7)			M										

TABLE I (continued)

SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	A-001	E-001 & 002		E-001D	C-1	C-2	B-1	A-1 Sta	A-1 Sta			
TYPE OF SAMPLE	C-24	G	C-24	Cont	G	G	G	G	O	O		
Mercury (mg/l & kg/day) (8)			M									
Nickel (mg/l & kg/day) (8)			M									
Zinc (mg/l & kg/day) (8)			M									
PHENOLIC COMPOUNDS (mg/l & kg/day) (8)			M									
All Applicable Standard Observations					2/M	3/W	2/M	2/W	E			
Bottom Sediment Analyses and Observations					Y		2/Y					
Total Identifiable Chlorinated Hydrocarbons (mg/l & kg/day)			M									
Conductivity					(11) 2/M	(9) W	(11) 2/M					
Non-dissociated Ammonium hydroxide as N(mg/l)					(11) 2/M		(11) 2/M					

LEGEND FOR TABLE

TYPES OF SAMPLES

- **G** = grab sample
- **C-24** = composite sample - 24-hour
- **C-X** = composite sample - X hours (used when discharge does not continue for 24-hour period)
- **Cont** = continuous sampling
- **DI** = depth-integrated sample
- **BS** = bottom sediment sample
- **O** = observation

TYPES OF STATIONS

- **I** = intake and/or water supply stations
- **A** = treatment facility influent stations
- **E** = waste effluent stations
- **C** = receiving water stations
- **P** = treatment facilities perimeter stations
- **L** = basin and/or pond levee stations
- **G** = groundwater stations

FREQUENCY OF SAMPLING

- **E** = each occurence
- **H** = once each hour
- **D** = once each day
- **W** = once each week
- **M** = once each month
- **Y** = once each year
- **2/H** = twice per hour
- **2/W** = 2 days per week
- **5/W** = 5 days per week
- **2/M** = 2 days per month
- **2/Y** = once in March and once in September
- **Q** = quarterly, once in March, June, Sept. and December
- **2H** = every 2 hours
- **2D** = every 2 days
- **2W** = every 2 weeks
- **3M** = every 3 months
- **Cont** = continuous